

IN THE CLAIMS

What is claimed is:

1. A jaw blade for use in a surgical clip applier, comprising:
a first leg and a second leg, each leg having a jaw integrally connected thereto;
5 and
at least one inter-leg engaging member that extends from one of the first and second legs and is engageable with the other of the first and second legs.
2. The jaw blade of claim 1, wherein when the at least one inter-leg
10 engaging member is engaged with the other of the first and second legs, a vertical displacement in a first direction of one of the first and second legs causes a first corresponding displacement in the first direction of the other of the first and second legs, and such that a vertical displacement in a second direction, opposite the first direction, of the one of the first and second legs causes a second corresponding
15 displacement in the second direction of the other of the first and second legs.
3. The jaw blade of claim 1, wherein the jaw blade includes two inter-leg engaging members, a first inter-leg engaging member that extends from the first leg and is engageable with the second leg, and a second inter-leg engaging member that
20 extends from the second leg and is engageable with the first leg.
4. The jaw blade of claim 3, wherein when the respective first and second inter-leg engaging members are engaged with the respective second and first legs, a vertical displacement in a first direction of one of the first and second legs causes a
25 first corresponding displacement in the first direction of the other of the first and second legs, and such that a vertical displacement in a second direction, opposite the first direction, of the one of the first and second legs causes a second corresponding displacement in the second direction of the other of the first and second legs.

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5. The jaw blade of claim 3, wherein the first inter-leg engaging member comprises a first arm configured and adapted to engage the second leg, and the second inter-leg engaging member comprises a second arm configured and adapted to engage the first leg.

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6. The jaw blade of claim 1, wherein the first leg includes an inner surface oriented toward the second leg and a recess formed in an upper portion of the inner surface of the first leg, and the second leg includes an inner surface oriented toward the first leg and a recess formed in an upper portion of the inner surface of the second leg, the inner surface of the first leg having a first inter-leg engaging member comprised of a first arm that includes a tongue extending distally therefrom, the tongue of the first arm being configured and dimensioned to be received in and being engageable with the recess in the upper portion of the second leg, and the inner surface of the second leg having a second inter-leg engaging member comprised of a second arm that includes a tongue extending distally therefrom, the tongue extending from the second arm being configured and dimensioned to be received in and being engageable with the recess in the upper portion of the first leg.

7. The jaw blade of claim 1, wherein there are two inter-leg engaging members, a first inter-leg engaging member comprising a first arm that extends from the first leg and closely overlies and is engageable with the second leg, and a second inter-leg engaging member comprising a second arm that extends from the first leg and closely underlies and is engageable with the second leg.

8. The jaw blade of claim 1, wherein the first leg includes a first arm that extends from the first leg toward the second leg, the first arm including a pair of transversely spaced apart tongues extending distally therefrom, the second leg including an upper and lower surface, an upper recess in the upper surface thereof, and a lower recess in the lower surface thereof, wherein the pair of spaced apart tongues of the first arm are configured and dimensioned to be received in and be engageable with the upper and lower recesses formed respectively in the upper and lower surfaces of

the second leg.

9. The jaw blade of claim 1, wherein when the jaw blade is assembled in a surgical clip applier and the jaws of the jaw blade are in an open position, a portion
5 of the inter-leg engaging member that extends from one of the first and second legs, closely overlies a portion of the other of the first and second legs.

10. The jaw blade of claim 3, wherein when the jaw blade is assembled in a surgical clip applier and the jaws of the jaw blade are in an open position, a portion
10 of the inter-leg engaging member that extends from one of the first and second legs, slidably engages a portion of the other of the first and second legs.

11. The jaw blade of claim 6, wherein a portion of the tongue of the first arm closely overlies the recess in the second upper surface of the second leg, and a
15 portion of the tongue of the second arm closely underlies the recess in the first lower surface of the first leg.

12. The jaw blade of claim 8, wherein the pair of spaced apart tongues of the first arm closely overlie and underlie the respective upper and lower recesses of
20 the second leg.

13. The jaw blade of claim 1, wherein each of the first and second legs includes a neck adjacent the jaw of the respective first and second legs, and the inter-leg engaging member extends from one of the necks.
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14. The jaw blade of claim 13, wherein there are two inter-leg engaging members, one that extends from the neck of the first leg, and another that extends from the neck of the second leg.
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15. A jaw blade for use in a surgical clip applier, comprising:
a first leg and a second leg, each leg having a jaw integrally connected thereto; and

at least one inter-leg engaging member that extends from one of the first and
5 second legs, and extends between and is engaged with the other of the first and
second legs.

16. The jaw blade of claim 15, wherein when the at least one inter-leg
engaging member is slidably engaged with the other of the first and second legs,
10 such that a vertical displacement in a first direction of one of the first and second
legs causes a first corresponding displacement in the first direction of the other of
the first and second legs, and such that a vertical displacement in a second direction,
opposite the first direction, of the one of the first and second legs causes a second
corresponding displacement in the second direction of the other of the first and
15 second legs.

17. The jaw blade of claim 15, wherein the first leg includes a first neck
portion and the second leg includes a second neck portion, the first and second neck
portions adjoining the first and second jaws, and the at least one inter-leg engaging
20 member including:

a first arm that extends from the first neck portion and slidably engages the
second neck portion; and

a second arm, spaced from the first arm, that extends from the second neck
portion and slidably engages the first neck portion.

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18. The jaw blade according to claim 17, wherein the first neck portion
includes a first inner surface oriented toward the second neck portion and a recess
formed in a lower portion of the first inner surface, and the second neck portion
includes a second inner surface oriented toward the first neck portion and a recess
30 formed in a lower portion of the second inner surface;

wherein the first arm extending from the first inner surface of the first neck

portion includes a tongue extending distally therefrom, the tongue extending from the first arm being configured and adapted to be received in the recess formed in the lower portion of the second neck portion; and

5 wherein the second arm extending from the second inner surface of the second neck portion includes a tongue extending distally therefrom, the tongue extending from the second arm being configured and adapted to be received in the recess formed in the lower portion of the first neck portion, wherein at least one of the first and second tongues is slidingly engaged with its respective recess.

10 19. The jaw blade according to claim 17, wherein the at least one inter-leg engaging member comprises:

a first arm configured and adapted to extend from the first neck portion and overlie and slidingly engage the second neck portion; and

15 a second arm configured and adapted to extend from the first neck portion and underlie and slidingly engage the second neck portion.

20. The jaw blade according to claim 17, wherein the at least one inter-leg engaging member comprises:

20 a first arm configured and adapted to extend from the first neck portion and overlie and slidingly engage the second neck portion; and

a second arm configured and adapted to extend from the second neck portion and overlie and slidingly engage the first neck portion.

25 21. The jaw blade according to claim 17, wherein the jaw blade defines a longitudinal axis, and wherein the first neck portion includes an arm extending therefrom and substantially toward the second neck portion, the arm including a pair of spaced apart tongues extending at an angle to the longitudinal axis of the jaw blade, wherein the second neck portion includes a recess formed in each of the upper and lower surface thereof, and wherein the pair of spaced apart tongues of the arm
30 respectively slidingly engage the recesses formed in the upper and lower surfaces of the second neck portion.

22. In an apparatus for applying surgical fasteners or clips, the apparatus including a handle portion, a body portion extending from the handle portion, a jaw mechanism extending from the body portion at an end opposite the handle portion and having a first leg and a second leg, each leg having a jaw integrally connected thereto, the jaw mechanisms being movable between an open position for receiving a fastener or clip and a closed position for forming the fastener or clip in response to a movement of the handle portion, and a fastener or clip supply disposed within the body portion, the improvement in the jaw mechanism comprising:

at least one inter-leg engaging member extending between and being adapted to effect an engagement between the first and second legs, wherein vertical displacement in a first direction of one of the first and second legs causes a corresponding displacement in the first direction of the other of the first and second legs, and wherein a vertical displacement in a second direction, opposite the first direction, of one of the first and second legs causes a second corresponding displacement in the second direction of the other of the first and second legs.

23. The apparatus of claim 22, wherein the at least one inter-leg engaging member is adapted to effect engagement when the jaws are in an open position.

24. The apparatus of claim 22, wherein the at least one inter-leg engaging member is adapted to effect engagement when the jaws are in a closed position.

25. A method for applying surgical clips and performing blunt dissection of tissue, comprising the steps of:

providing a surgical clip applier, which surgical clip applier includes a jaw blade having:

a first leg and a second leg, each of the first and second legs having a jaw integrally connected thereto; and

at least one inter-leg engaging member extending between and effecting an engagement between the first and second legs, such that a vertical displacement in a first direction of one of the first and second legs causes a first

corresponding displacement in the first direction of the other of the first and second legs, and such that a vertical displacement in a second direction, opposite the first direction, of one of the first and second legs causes a second corresponding displacement in the second direction of the other of the first and second legs; and

- 5 performing a blunt dissection technique utilizing the jaws of the clip applier; and
applying a surgical clip to a tissue or vascular target area utilizing the clip applier.

- 10 26. A jaw blade for use in a surgical clip applier, comprising:
a first leg;
a second leg spaced from and parallel to the first leg, the first and second legs defining a plane, each leg including a jaw integrally formed at a distal end thereof; and
15 at least one inter-leg engaging member extending between the first and the second legs and operatively engaged therewith, wherein the at least one inter-leg engaging member maintains or reduces the loss of co-planarity of the first leg with respect to the second leg.

- 20 27. The jaw blade according to claim 26, wherein the operative engagement of the at least one inter-leg engaging member causes the first and second leg members to deflect and maintain their co-planarity when one of the first and second legs is deflected in a direction which is orthogonal with respect to the plane defined by the first and second legs.

- 25 28. The jaw blade according to claim 27, wherein the jaw blade includes:
a first inter-leg engaging member integrally formed with the first leg and extending substantially toward the second leg, the first inter-leg engaging member including a tongue extending from a distal end thereof, which tongue is configured and dimensioned to interengage a recess formed in a surface of the second leg; and
30 a second inter-leg engaging member integrally formed with the second leg and extending substantially toward the first leg, the second leg inter-engaging member

including a tongue extending from a distal end thereof, which tongue is configured and dimensioned to interengage a recess formed in a surface of the first leg.

29. The jaw blade according to claim 28, wherein the recess formed in the second leg is formed in one of a top and a bottom surface thereof, and wherein the recess formed in the first leg is formed in one of a top and a bottom surface thereof, which recess formed in the first leg is formed in the surface opposite the top and bottom surface in which the recess of the second leg is formed.

30. The jaw blade according to claim 27, wherein the at least one inter-leg engaging member includes a single inter-leg engaging member integrally formed with one of the first and second legs and extending substantially toward the other of the first and second legs, the inter-leg engaging member including a pair of tongues extending from a distal end of the inter-leg engaging member and spaced from one another in a direction orthogonal to the plane defined by the first and second legs, each tongue of the pair of tongues being configured and dimensioned to interengage a respective recess formed in a top surface and a bottom surface of the second leg.